eld electronic unit for process measurement technology in which a measurement sensor is provided with gital signal processing and control electronics to improve measurement accuracy and sensor reliability

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Abstract of **DE10161071**

The invention relates to a field device electronics system comprising a sensor unit (4) for process measurement. The field device electronics system is connected to a sensor unit (4) via corresponding signal paths. The field device electronics system receives analog measuring signals (S1) from the sensor unit (4) and produces analog control signals (S5) in order to excite the fundamental waves of the sensor unit (4) and transmits them to the sensor unit (4). According to the invention, an analog/digital converter (10), a digital phase modifier (30) and a digital/analog converter (50) are provided in order to produce said control signal (S5). The analog measuring signals (S1) are digitized by the analog/digital converter (10) and are fed to the digital phase changer (30). The digital/analog converter (50) is used to convert the output signal (S4) of the phase changer (40) into the analog control signal (S5) for the sensor unit (4).
Field electronic unit with a sensor unit (4) for process measurement technology. The sensor received control signals (S5) and generates analogue measurement signals (S1). To generate the control signal an ADC (10), digital phase shifter (30) and a DAC (50) are provided. The analogue measurement signal is digitized by the DAC and fed to the digital phase shifter, after which the output signal is fed to the DAC to provide an analogue control signal (S5) for the sensor.